

**Notice of Allowability**

Application No.

09/660,536

Examiner

Brian Goddard

Applicant(s)

RUI, YONG

Art Unit

2161

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Amendment under 37 CFR 1.116 and Appeal Brief filed 1 July 2004.
2. ☒ The allowed claim(s) is/are 2,3,5-8,23-30,33,34,46-49 and 55-59.
3. ☒ The drawings filed on 13 September 2000 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

  
SAFET METJAGIC  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Mr. William J. Breen on 8 October 2004.

The application has been amended as follows:

3. Claims **4, 10-22, 32, 52-54** and **60-66** have been **cancelled**.

4. Claim **2** has been **amended as follows**:

2. (Currently amended) One or more computer readable media having stored thereon a plurality of instructions that, when executed by one or more processors, causes the one or more processors to perform acts including:

receiving an initial image selection;

generating a plurality of query vectors by extracting, for each query vector, one of a plurality of low-level features from the initial image selection;

selecting a set of potentially relevant images based at least in part on distances between the plurality of query vectors and a plurality of feature vectors corresponding to low-level features of a plurality of images;

receiving feedback regarding the relevance of one or more images of the set of potentially relevant images;

generating a new plurality of query vectors based at least in part on the feedback;

generating a weighting of feature elements based at least in part on the feedback; and

selecting a new set of potentially relevant images based at least in part on both the weighting of feature elements and distances between the new plurality of query vectors and the plurality of feature vectors, wherein the selecting a new set of potentially relevant images comprises using a matrix in determining the distance between one of the new plurality of query vectors and one of the plurality of feature vectors, and further comprising dynamically selecting the matrix based on both a number of images in the set of potentially relevant images for which relevance feedback was input and a number of feature elements in the one feature vector, wherein the dynamically selecting further comprises:

if the number of images in the set of potentially relevant images for which relevance feedback was input is not less than the number of feature elements in the one feature vector, then using one matrix that transforms the query vector and the one feature vector to a higher-level feature space and then using another matrix that assigns a weight to each element of the transformed query vector and the transformed feature vector; and

if the number of images in the set of potentially relevant images is less than the number of feature elements in the one feature vector, then using a matrix that assigns a weight to each element of the query vector and the one feature vector.

### **REASONS FOR ALLOWANCE**

5. The following is an examiner's statement of reasons for allowance:

Regarding claims 8, 48, 49 and 57-59: Neither RFT, nor any of the other prior art of record, alone or in combination, teach or suggest the calculation of the weight ( $u_i$ ) by the claimed equation. See applicant's argument on pages 7-10 of the Appeal Brief filed 1 July 2004.

Regarding claims 7, 46, 47, 55 and 56: Neither MR, nor any of the other prior art of record, alone or in combination, teach or suggest the generation of a query vector by the claimed equation as argued by applicant on pages 13-16 and 20-22 of the Appeal Brief filed 1 July 2004.

Regarding claims 2, 3, 5, 6, 23-30, 33 and 34: Neither RFT, MR nor any of the other prior art of record, taken alone or in combination, teach or suggest the claimed transformation of vectors to a higher-level feature space followed by the assignment of weight, in combination with the other limitations of these claims. See applicant's argument on pages 22-27 of the Appeal Brief filed 1 July 2004.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Goddard whose telephone number is 703-305-7821 until 21 October 2004, and 571-272-4020 after that date. The examiner can normally be reached on M-F, 9 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 703-308-1436 until 21 October 2004, and 571-272-4023 after that date. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

bdg  
12 October 2004

  
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